

Agency Problems in Entrepreneurial Firms*

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Abstract

Researchers have long been interested in understanding how top managers may affect firm performance and value. They paid particular attention to the differences in performance of firms with owner-managers and those with hired managers, with the principal-agent problem being a core explanation for the observed variations. However, this stream of research has largely overlooked young entrepreneurial and family firms, where the principal-agent problem was assumed to be nonexistent or minimal. In this paper, we question this assumption. We examine whether the principal-agent conflict affects the performance of young entrepreneurial ventures with hired managers and determine whether their performance is more sensitive to the monitoring difficulty or effort incentives of hired managers. We use two policy changes that would exogenously increase monitoring difficulty and managers' effort incentives—a shock to the accounting system and a shock to the local labor market. We find that, similar to established corporations, young entrepreneurial ventures suffer from the principal-agent problem. However, unlike corporations, entrepreneurial ventures seem to be much more sensitive to the managers' incentive intensity than monitoring difficulty. These results suggest that the sources of the principal-agent conflict may be different in entrepreneurial start-ups and corporations and open a broad avenue for further research of the underlying mechanisms. The findings also suggest that entrepreneurs may be better off motivating their managers through incentives, rather than further investing in monitoring systems. Additionally, we demonstrate how policy changes may exogenously discipline hired managers through the labor markets.

Keywords: agency problems, firm performance, hired manager, entrepreneurs

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1. INTRODUCTION

Research scholars have been long interested in understanding how top managers affect firm performance and value (e.g., Bertrand, 2009; Mackey, 2008; Miller, Minichilli, and Corbetta, 2013). One of the core mechanisms underlying managers' effects is a principal-agent problem, or the conflict of interests between a hired manager and firm shareholders explained by the agency theory (e.g., Jensen and Meckling, 1976; Villalonga and Amit, 2006). Until recently, however, researchers have primarily focused on understanding the principal-agent problem in established corporations and have largely overlooked the potential of this problem in entrepreneurial and family start-ups (Schulze, Lubatkin, Dino, and Buchholtz, 2001).

Ventures started by entrepreneurs and their families are an important population of firms both inside and outside North America. In 2007, small businesses owned by entrepreneurs employed 35 million people in the United States, which constitutes 30 percent of all employed individuals in the country. They were also responsible for 20 percent of receipts earned by businesses in the United States (Fiscal Policy Institute, 2012). Among European firms, approximately 30 percent are owned by individual entrepreneurs or entrepreneurs and their families. The share of entrepreneurial and family firms is even larger in the developing countries, such as Eastern European nations and former Soviet Union republics, which have relatively recently started welcoming private ventures and entrepreneurs (ORBIS, 2013).

Given the prevalence of firms owned by entrepreneurs and families and their significance for the economy, it is important to understand the sources of variation in the performance of these firms, particularly in their early years of operation, when so many ventures fail. One potential source of performance variations may be the behavior of the firms' top managers. Prior studies have found that top managers significantly influence the performance of established firms (e.g.,

Bertrand and Schoar, 2003; Bloom and Van Reenen, 2007; Chang, Dasgupta, and Hilary, 2010; Sliwka, 2007; Wulf and Singh, 2011). Particular attention has been given to the differences between owner-managers and hired managers and underlying agency problems (e.g., Anderson and Reeb, 2003 Fahlenbrach, 2009; Nelson, 2003; Villalonga and Amit, 2006). However, this stream of research has largely overlooked young entrepreneurial and family start-ups (Fahlenbrach, 2009).

In the case of young entrepreneurial ventures and family firms, researchers have largely believed that firm founders always manage their firms themselves (e.g., Berglann, Moen, Roed, and Skogstrom, 2011; Fama and Jensen, 1983; Hamilton, 2000; Nanda and Sorensen, 2010). Recent studies, however, have started accumulating data that suggest that a significant number of young ventures are not managed by entrepreneurs, but are operated by hired managers. Chen and Thompson (2012), for example, show that at least 13 percent of Danish start-ups have hired managers in the early years of operation. Kulchina (2013b) demonstrates that 37 percent of foreign entrepreneurial start-ups in Russia have hired managers. Our own observation of firms founded in Europe after 2000 suggests that over 20 percent, or 1.5 million, of young entrepreneurial and family ventures are operated by hired managers who are not firm shareholders (ORBIS, 2013).

Despite the fact that many entrepreneurs hire outside agents to operate their firms, we still know very little about the role of the principal-agent conflict in young start-ups. It is unclear if this conflict is as important in small entrepreneurial ventures as it is in large public corporations. The extant theoretical literature seems to suggest that the principal-agent conflict should be a second order concern in young start-ups because entrepreneurs would have high incentives to monitor hired managers, thus reducing agency problems to a minimum (e.g., Demsetz and Lehn, 1985; Jensen and Meckling, 1976). Yet, if the principal-agent problem is minimal, why would so

many entrepreneurs still prefer to manage their firms themselves? The large share of owner-managers holds even among foreign entrepreneurs, who often have to incur the costs of relocation to a host country in order to personally manage their ventures (Kulchina, 2013b).

In this paper, we examine whether the principal-agent problem may have a negative impact on the performance of young entrepreneurial firms. We also explore two potential sources of the principal-agent problem: insufficient and costly monitoring of hired managers (monitoring problem) and their low effort incentives relative to owner-managers (moral hazard problem).

According to the agency theory, the principal-agent conflict arises when a hired manager, self-interested and opportunistic by nature, does not act in the best interest of the firm and the firm owner is unable to write a perfect contract and perfectly monitor the agent's behavior (Jensen and Meckling, 1976; Fama and Jensen, 1983). As a result, a hired manager has a tendency to shirk and reduce effort relative to an owner-manager, which negatively affects firm performance. While writing a perfect contract that can foresee all future contingencies is largely impossible, corporations have traditionally reduced the principal-agent problem by improving monitoring systems and increasing effort incentives of hired managers. In this paper, we examine whether monitoring and incentives are equally important in young entrepreneurial and family firms.

We use a unique sample of young ventures founded by entrepreneurs and their families, for which we can identify firms with hired managers and owner-managers. We examine whether the performance of entrepreneurial firms with hired managers decreases with the increase of the monitoring difficulty and costs. We also examine whether the performance of firms with hired managers improves when their work-effort incentives are exogenously increased.

We find that the performance of entrepreneurial firms in our sample has little sensitivity to the monitoring difficulty and costs: firm performance does not decrease under the conditions of

presumably difficult and costly monitoring. In contrast, we find that the performance of entrepreneurial firms with hired managers strongly benefits from increasing managers' work-effort incentives. Decreasing the number of managers' prospective employment options outside of their firms has a significant positive effect on firm performance. These findings, therefore, suggest that entrepreneurs would be better off by increasing effort incentives of their hired managers rather than further improving the monitoring systems in their firms.

Our findings contribute to the strategy and entrepreneurship literature in several ways. First, they extend our understanding of the principal-agent conflict to the young ventures started by entrepreneurs and their families. Whereas prior literature has largely focused on the principal-agent conflict in corporations (e.g., Ang, Cole, and Lin, 2000; Villalonga and Amit, 2006; Zajac and Westphal, 1994) and assumed that in entrepreneurial ventures this conflict is nonexistent or minimal (e.g., Demsetz and Lehn, 1985; Jensen and Meckling, 1976), we demonstrate that the principal-agent conflict is a first-order concern in young firms started by entrepreneurs and their families. However, unlike in established corporations, where a significant source of the agency problem lies in the insufficient monitoring of hired managers, we find little sensitivity to monitoring costs in entrepreneurial ventures. There is evidence, though, that agency conflict in entrepreneurial firms is driven by lower work-effort incentives of hired managers relative to owner-managers. One possible explanation for this effect may be that hired managers in general willingly fulfill their contracts, but founder-managers constantly overwork and exert effort beyond what a normal employment contract would require.

In addition, our results contribute to the agency and incentive theories. Previous studies have largely focused on incentive contracts as a core source of managers' incentives in organizations (e.g., Lazear, 2000). Recent work, however, argues that incentive contracts are not the only possible source of employee incentives, but market competition can also create effort

incentives (e.g., Gibbons, 2005). Our results provide empirical evidence of how an anticipation of increased labor market competition can increase hired managers' incentives and thereby improve firm performance. These results also suggest that during the times of high unemployment and high job market competition, a moral hazard problem in organizations should be lower.

By focusing on the principal-agent problems in entrepreneurial ventures and family firms, our findings also contribute to the recent literature on agency problems in entrepreneurial ventures (e.g., Schulze et al., 2001). This literature has largely focused on the agency conflict between minority and majority shareholders, whereas we point out to an additional agency problem—the principal-agent conflict, which may be an additional source of agency costs in entrepreneurial and family start-ups.

Finally, our results also contribute to the franchising literature (e.g., Brickley and Dark, 1987; Lafontaine and Slade, 2007). Franchising has long been believed to be a solution to the agency problems in multiunit firms. Successful franchisees are often given an opportunity to open additional franchised units. In serial franchising, however, the franchised ventures are typically operated by hired managers even though they are owned by individual entrepreneurs. Our findings would suggest that the franchising without owner-management only partially solves the principal-agent conflict. Therefore franchised units that are only owned but not operated by individual entrepreneurs may have inferior performance relative to owner-managed units.

2. THEORETICAL BACKGROUND

Agency problems arise when a hired manager, self-interested and opportunistic by nature, does not act in the best interest of the firm owner and the owner cannot perfectly monitor the manager's behavior (Jensen and Meckling, 1976; Eisenhardt, 1989; Fama and Jensen, 1983). Since hired managers do not typically share firm profits, they may be more interested in their

personal benefits, derived from their positions, than in firm performance. Thus, hired managers are likely to decrease work effort, cheat, or consume perquisites, thereby reducing firm profits. An owner-manager, by contrast, receives direct benefits from the firm profits and has incentives to exert higher effort and shirk less than a hired manager. Sanders and Nee (1996), for example, report that entrepreneurs are willing to work harder and put in longer hours than hired personnel.

A traditional way in the literature to detect the presence of the principal-agent conflict is to examine whether firm performance under a hired manager relative to an owner-manager varies with the monitoring difficulty and the size of the manager's work-effort incentives (e.g., Ang et al., 2000).

Monitoring: To uncover shirking behavior, owners monitor managers' actions (Fama and Jensen, 1983). When monitoring is difficult and costly, hired managers are more likely to shirk, and their shirking is costlier to detect. For example, the monitoring difficulty may increase with geographical distance between the owner and the firm (Brickley and Dark, 1987; Minkler, 1990), when the quality of the firm output is less evident (e.g., in service provision compared to manufacturing (Seshadri, 2002)), and when a firm has no outside monitoring by creditors (Ang et al., 2000). Monitoring may also be more difficult when the information asymmetry between an owner and a manager is greater. Given that a hired manager has a tendency to shirk when the firm monitoring is difficult, and manager's shirking is associated with lower firm performance, the performance of firms with hired managers will be lower under the conditions of difficult monitoring.

H1: The performance of entrepreneurial and family firms with hired managers should be lower when firm monitoring is more difficult, all else equal.

Incentives: We expect that the performance of firms with hired manager would also vary with the hired manager's work-effort incentives. By work-effort incentives we mean the incentives to work harder and shirk less that are aligned with firm profit maximization. When a hired manager has high incentives, the agency costs should be small because such a manager works harder, shirks less, and consumes fewer perks at the expense of the firm. A hired manager, for example, may have high work incentives when he owns a larger share of the firm (e.g., Eisenhardt, 1989) or when he has few outside employment options (Sparks, 1986).

H2: The performance of entrepreneurial and family firms should be better in the situations where a manager has higher work-effort incentives, all else equal.

3. EMPIRICAL ANALYSES

3.1 Data and Variables

We examine the principal-agent problems in young firms started by entrepreneurs using the dataset of foreign entrepreneurial firms founded in Russia between 1997 and 2008. In line with the prior studies (e.g., Aldrich and Waldinger, 1990), we define a *foreign entrepreneurial firm* as firm owned solely by one or several foreign individuals. Foreign entrepreneurs are a convenient setting to study the principal-agent problems because they allow observing variations in the monitoring difficulty and managers' work incentives. The data come from the Russian subsample (Ruslana) of the Amadeus database supported by Bureau van Dijk (BvD). BvD assembles its databases from the annual reports that firms file to government agencies. BvD's databases, such as Amadeus and ORBIS, have been extensively used by strategy and entrepreneurship researchers (e.g., Belenzon, Berkovitz, and Rios, 2013; Bloom, Kretschmer, and Van Reenen, 2011; Kosova, 2010; Kulchina, 2013a). A unique feature of the Ruslana subsample

is that it contains information on young private firms. Unlike in some other countries, such as the U.S. or Germany, all private firms located in Russia are required to file annual financial and ownership reports. Importantly, Ruslana dataset also provides firm ownership information and the owners' and managers' names. It also indicates if the manager is also a shareholder of the firm. These features, which are rarely available in other entrepreneurship databases, allow us to distinguish firms managed by hired managers from the firms managed by the entrepreneurs themselves. In addition to the ownership and management data, Ruslana reports annual financial data that we use to measure firm performance.

After removing firms with obvious errors, and outliers,¹ we have an unbalanced panel dataset of 16,205 firm-year observations from 6,160 firms;² 52 percent of firms work in retail and wholesale trade, 24 percent in services, 10 percent in manufacturing, 9 percent in construction and 4% in other industries. The majority of firm owners are from China (25%), Belarus (12%), Turkey (10%), India (4%), Germany (4%), the United States (3%), and Italy (2%).

Similar to prior studies (e.g., Anderson and Reeb, 2003), we measure firm performance as operational return on assets (*OROA*), where the operational return is measured as earnings before interest and tax.

An *owner-manager* is a firm CEO who owns more than 20 percent of the firm shares, based on the most conservative manager's share threshold in the prior literature (e.g., Villalonga and Amit, 2006). Conversely, a *hired manager* is a firm CEO who owns less than 20 percent of the firm shares.³ Hired managers operate 37 percent of the firms, whereas the other 63 percent of

¹ We removed top and bottom 1 percent observations on OROA and obvious outliers. This removes observations with OROA above 150 percent and below -300 percent.

² All firms are private limited liability partnerships, and only a few of them have boards of directors.

³ Empirically, 20 percent is also the smallest share owned by any firm CEO in our dataset. Entrepreneurs in our sample rarely grant shares to hired managers. Thus, a typical hired manager from our dataset does not own any shares of the firm. However, the results are robust to increasing the definition of owner-management to 50 percent or 100 percent firm ownership.

the ventures are managed by the entrepreneurs themselves. A firm management status does not vary with time.

We also include a range of **control variables** comprising firm characteristics that, according to the prior research, may influence both manager choice and firm performance (e.g., Anderson and Reeb, 2003; Villalonga and Amit, 2006). These variables include the number of shareholders and the natural logarithms of assets, revenue, debt, and age. Henceforth, all monetary measures are in nominal Russian rubles.⁴

The definitions and key statistics for the variables appear in Table 1. Table 2 reports correlation coefficients for the main variables.

Insert Table 1 about here

Insert Table 2 about here

3.2 Empirical Strategy

Monitoring

To uncover whether monitoring affects performance of entrepreneurial start-ups with hired manager, we examine whether there is a stronger negative effect of a hired manager on firm performance when firm monitoring is presumably difficult and costly and when there is a greater information asymmetry between a manager and an owner of the firm. Presumably, firms with greater information asymmetry are also harder to monitor.

⁴ In the regressions, the effect of inflation is captured by the year dummy variables.

We start with a simple test that compares the performance of firms with hired managers and owner-managers and examines whether there is a greater underperformance of firms with hired managers in the situations when firm monitoring is more difficult.

Prior literature suggests that monitoring of service activities is more difficult and costly than monitoring of manufacturing activities (Seshadri, 2002). The outcome of manufacturing activities and its quality are easier to observe than those of provided services. Therefore, we expect that the negative effect of a hired manager on firm performance that is due to the principal-agent conflict should be stronger in service industries than in manufacturing industries. The list of manufacturing and service industries from our sample can be found in Appendix 1.

Ang et al. (2000), in their study of corporations, argue that monitoring is less costly for the owner when a firm has a larger amount of external debt. When the amount of external debt is large, lending institutions, such as banks, conduct their own monitoring of the firm and its activities. Thereby, an external monitoring complements owners' monitoring efforts and provides positive externalities in the form of reduced monitoring costs. Therefore, we expect that the negative effect of a hired manager on firm performance should be smaller in firms with larger external debt. We measure debt as a natural logarithm of the sum of the firm's short-term and long-term liabilities.

Finally, the franchising literature has long argued a strong positive relationship between monitoring difficulty and the geographic distance between the owner and the firm (e.g., Brickley and Dark, 1987; Minkler, 1990). We expect that the negative effect of a hired manager should be greater for foreign entrepreneurs from more distant countries. According to the Russian laws, firm ownership does not automatically justify a long-term visa for foreign nationals, unless they are employed by their firms. Therefore, the majority of nonmanaging foreign entrepreneurs remain in their home countries and monitor their firms at a distance. As in Sorenson and Stuart

(2001), to measure firm proximity, we use a natural logarithm of the spherical distance in kilometers between the city where the firm is located and the owners' country of origin.⁵ Since precise geographic coordinates for some small Russian cities are not available from public sources, we limited our sample to firms located in cities with populations over 100,000 people. These firms constitute 90 percent of our original sample.

We estimate the effect of monitoring difficulty and costs by the OLS Equations 1–3 below:

$$OROA_{it} = \beta_0 + \beta_1 HM_i + \beta_2 HM_i \times Services_i + \beta_3 Services_i + \sum_{n=4}^k \beta_n Controls_{nit} + Y_t + C_i + \varepsilon_{it}, \quad (1)$$

$$OROA_{it} = \beta_0 + \beta_1 HM_i + \beta_2 HM_i \times Distance_i + \beta_3 Distance_i + \sum_{n=4}^k \beta_n Controls_{nit} + Y_t + C_i + I_i + L_i + \varepsilon_{it}, \quad (2)$$

$$OROA_{it} = \beta_0 + \beta_1 HM_i + \beta_2 HM_i \times Debt_{it} + \beta_3 Debt_{it} + \sum_{n=4}^k \beta_n Controls_{nit} + Y_t + C_i + I_i + \varepsilon_{it}, \quad (3)$$

where HM_i is a hired manager dummy variable; Y_t is a set of the year of observation dummy variables; $Controls_{it}$ include time-variant and time-invariant control variables; C_i is a set of the country-of-origin dummy variables; I_i is a set of industry dummy variables; L_i is a set of the city of location dummy variables; and ε_i is an error term. Monitoring variables measure debt, distance, and whether a firm is in a service industry versus manufacturing. Henceforth, the dependent variable is firm OROA. Robust standard errors are clustered on firm.

⁵ $Distance = 5532.52[\arccos(\sin(latcity_i)\sin(latcountry_i) + \cos(latcity_i)\cos(latcountry_i)\cos(|longcity_i - longcountry_i|))]$,

where $latcity$ and $longcity$ are respectively the latitude and the longitude of the city where firm i is located; $latcountry$ and $longcountry$ are respectively the latitude and the longitude of the country of firm i 's owners. We use a country of origin since a more precise location, the city of origin, is not available. However, the results are robust to removing larger countries, such as the U.S. or Canada.

While the models with interactions can be suggestive of the relationships between monitoring difficulty and the performance of firms with hired managers, they are subject to the endogeneity problems. Even with the inclusion of a comprehensive set of control variables, some unobserved firm characteristics may determine both manager choice and monitoring difficulty. For example, firms that are easier to monitor may be located at a longer distance from their founders. This may reduce our ability to detect the presence of the monitoring problem. To address this and other endogeneity concerns, we use a presumably exogenous policy shock that increases information asymmetry between a manager and an owner in favor of a hired manager.

Instrumenting for the monitoring difficulty

Agency literature suggests that monitoring problems arise from the information asymmetry between a manager and an owner, where a manager typically has better information about the firm (Jensen and Meckling, 1976; Tosi, Katz, and Gomez-Mejia, 1997). When information asymmetry is high, monitoring is more difficult and costly and hired managers have better opportunities to shirk because their shirking is harder to detect. For an owner, the most common source of information about the firm is the firm's accounting reports. Collecting any additional information about the firm's operations beyond the standard accounting reports increases the cost of monitoring.

To further investigate the monitoring problem, we use an exogenous shock to the accounting system that increased the asymmetry of information in favor of hired managers, thereby increasing the cost and difficulty of monitoring and providing hired managers better shirking opportunities should they wish to realize them. In January 2001, Russia significantly modified its accounting standards, changing the way costs, revenues, and assets were calculated and reported in the financial statements. For example, certain assets and materials could be

written off faster than before, amortization accounting changed, certain assets and expenses were no longer reported, and the value of fixed assets had to be reevaluated. Resulted differences in the reported value of assets between 2001 and 2000 could be written off as a one-time expense in 2001. Due to this and other changes, the amounts of profits and losses in the profit-and-loss statements for 2001 could significantly differ from those reported in 2000 (Sotnikova, 2001). For a person without specific accounting knowledge, it was hard to tell whether this difference was due solely to the accounting changes or to some other events. For the foreign entrepreneurs, detecting any changes unrelated to the new accounting legislation was even harder than for the domestic entrepreneurs due to little familiarity with Russian accounting standards and potential shirking opportunities as well as inability to monitor firm operations on daily basis due to long distances.

Since the accounting change made it difficult for foreign entrepreneurs to directly compare 2001 financial results with the returns from the previous years, it increased information asymmetry between hired managers and owners. Therefore, it provided better shirking opportunities to hired managers and increased the monitoring difficulty and costs for firm owners. This should result in lower profits of firms with hired managers in 2001 relative to the previous years. To estimate this effect, we use a difference-in-differences model with firm fixed effects, presented in Equation 4. Our treated group is firms with hired managers, and the control group is firms with owner-managers. The estimation sample is limited to firms founded before 2001. The observation period is from 1997 to 2001 (inclusive).

$$OROA_{it} = \beta_0 + \beta_1 HM_i \times Year2001 + \sum_{n=2}^k \beta_n Controls_{nit} + Y_t + \varphi_i + \varepsilon_{it}, \quad (4)$$

where φ_i is a firm fixed effect, which also captures the main effects of a hired manager and time-invariant control variables. HM_i is a hired manager dummy variable; Y_t is a set of the year of

observation dummy variables; $Controls_{it}$ include time-variant and time-invariant control variables; and ε_i is an error term. Robust standard errors are clustered on firm.

Instrumenting for the choice of manager

Our major empirical concern with estimating the effect of the monitoring difficulty and costs is that entrepreneurs may choose to hire managers only when they are good at monitoring and controlling the managers' behavior. As a result, we may find little variations of firm performance with the monitoring variables in Equations 1–3. The accounting change helps us to address this concern by exploring within-firm variations. As a next step, to address this endogeneity problem even further, we use an exogenous policy regulation that limited the ability of foreign entrepreneurs to manage their firms personally and randomly forced some of them to hire an outside manager. We examine whether this policy change had a stronger negative effect on the firms with presumably more difficult monitoring, i.e., service firms, distant firms, and firms with a smaller debt.

To manage a firm in Russia, a foreign entrepreneur needs a work permit. Capital investment does not automatically justify this permit unless an entrepreneur serves as a manager of the firm. Foreign owner-managers compete for the permits with all other foreign workers and under the common rules. Importantly, the work permit application can only be filed inside Russia immediately *after* the firm registration. Therefore, the outcome of the application does not affect an entrepreneur's founding decision.

In 2003–2007, Russia had a binding quota on the number of work permits issued to the citizens of non-CIS countries. The Commonwealth of Independent States (CIS) includes all former Soviet republics, except Georgia, Latvia, Lithuania, and Estonia, whereas non-CIS

countries include all other countries. The quota was set-up annually at the federal level and divided between regions based on the country immigration policy and projected foreign-labor demand. The size of the quota significantly varied by the year and region. Since the quota was restrictive and typically did not match the actual permit demand, regions often ran out of it early in the year, but sometimes got additional quotas from the federal quota reserve in the fall. Quota assignment to individuals was random and there were no quota limits by job type, employer, or country of origin, so the applicants from all countries and for all positions had equal chances. Those entrepreneurs who initially planned to manage their firms personally but were denied a work permit were forced to hire a manager to operate their firms. Therefore, the quota system exogenously increased the probability that an entering firm would have a hired manager.

We instrument for the hired manager choice with the regional quota variations, using region fixed effect to control for the region characteristics. We focus on the firms founded between 2005 and 2007. In those years, regional quotas were announced to public late in the year (April and May), so for the majority of foreign entrepreneurs it was already too late to adjust their location choices accordingly.⁶

We start with demonstrating that a regional quota is a valid instrument for the hired manager choice by regressing hired manager dummy variable on the regional quota. Then, to simplify our models with interactions, we switch to the reduce models, where we interact the monitoring variables, distance, debt, and service industry, directly with the instrument, regional quota, as in Equation 5.

$$\begin{aligned}
 OROA_{it} = & \beta_0 + \beta_1 Rquota_{rd} \times Monitoring\ var_{i(t)} + \beta_2 Rquota_{rd} + \beta_3 Monitoring\ var_{i(t)} \quad (5) \\
 & + \sum_{n=4}^k \beta_n Controls_{nit} + Y_t + \delta_r + I_i + \varepsilon_{it}
 \end{aligned}$$

⁶ Firm registration in Russia is a lengthy process, and its length may vary unpredictably.

where $Rquota_r$ is a regional quota in year d ; year d is the founding year of firm i ; δ_r is a set of region dummy variables; Y_t is a set of the year of observation dummy variables; I_t is a set of industry dummy variables; $Controls_{it}$ include time-variant and time-invariant control variables; and ε_i is an error term. Monitoring variables include $distance_i$, $debt_{it}$ and $service_i$ industry dummy variable. We expect negative signs for the interactions with distance and services industry, and a positive sign for the interaction with the amount of external debt. We run individual regressions for each of the monitoring variables. To capture the effect of the service industry, we limit our sample to the service and manufacturing firms. Robust standard errors are clustered on firm.

Incentives

Agency theory predicts that managers increase their effort and shirk less when they have high incentives to align their interest with firm profit maximization and exert high work effort, thereby reducing the moral hazard problem (Jensen and Meckling, 1976). It is believed that managers' incentives may be proportional to the share of the firm that they own. While in our sample, we do not have hired managers who would own shares of the firm, we turn our attention to owner-managers.

Owner-managers are in general expected to have higher incentives than hired managers without firm ownership. However, an owner-manager's incentives may also vary depending on whether an owner-manager is the only owner of the firm or whether he or she shares firm profit with other shareholders. Since owner-managers who are not sole owners of the firm would get only part of the firm's profit, but 100 percent of the result of their shirking and perks, such owner-managers would have lower work-effort incentives, and thereby be more likely to shirk,

consume perks, and exert low work effort than owner-managers who are sole owners of their firms. Thus, as a first test for the presence of the moral hazard problem, we compare the performance of firms with owner-managers who are sole-owners and non-sole-owners of their firms, as in Equation 6.

$$OROA_{it} = \beta_0 + \beta_1 OM_i + \beta_2 OM_i \times Multiple\ owners_i + \beta_3 Multiple\ owners_i + \sum_{n=4}^k \beta_n Controls_{nit} + Y_t + C_i + \varepsilon_{it}, \quad (6)$$

where OM_i is an owner-manager dummy variable, which equals 1 when a firm has an owner-manager and 0 when a firm has a hired manager; Y_t is a set of the year of observation dummy variables; $Controls_{it}$ include time-variant and time-invariant control variables; C_i is a set of the country of origin dummy variables; I_i is a set of industry dummy variables; and ε_i is an error term. Robust standard errors are clustered on firm.

We expect that owner-managers in firms with multiple owners will be more similar in their incentives to hired managers. Therefore, we expect that owner-managed firms with multiple owners will have lower performance than owner-managed firms with a single owner.⁷ While the results of this model may be suggestive of the relationships between managers' incentives and firm performance, they are also subject to the endogeneity concerns. To address these concerns, we turn back to the hired managers and proceed with the test that allows us to instrument for the hired managers' incentives with the external policy change.

Instrumenting for the managers' incentives

According to Jensen and Meckling (1976), competition in the market for managers increases managers' effort incentives. When labor market competition is high, managers' outside

⁷ This effect might be smaller if all firm owners belong to the same immediate family, but when we check owners' last names in our sample, such a situation seems to be quite rare.

options are limited and their potential replacement is also easier, so managers have high incentives to improve their own performance and the performance and survival of their firms. Labor market competition is likely to be high when the region experiences high unemployment (Sparks, 1986). Current unemployment rate, however, is not a good instrument for managers' incentives because high unemployment may also reduce wages and thereby may potentially positively affect firm performance. Thus, instead of using current unemployment levels, we use an exogenous change to the future unemployment level expectations, which should increase managers' effort but have little effect on the current wages. Our exogenous shock is a government increase of the used car import duties, which was expected to result in a number of small-business closures in the affected regions and a significant increase in local unemployment. We examine firm performance in the year preceding the change, when the effect of the policy was already well-anticipated, but the unemployment had not yet increased.

In the 2000s, a significant part of the Russian auto market constituted of used cars imported from Japan and Europe. On average, the sales of used cars accounted for 20 percent of all car sales in Russia. The car-importing industry primarily consisted of small entrepreneurial firms located in the regions that shared the border with Japan and Europe. In January 2009, the Russian government significantly increased import duties on used cars in an effort to increase sales of new cars manufactured in Russia. Import duties increase made the import of used cars unprofitable and led to the closure of the majority of the used-car-importing firms. In 2009, Russian car import went down by 73 percent. In a single city of Vladivostok (a capital of the used-car dealerships in the Russian Far East), with a population of 600 thousand people, approximately 100 thousand people employed by the used-car importing dealerships were expected to lose their jobs that year.

Due to the high media coverage, the increase of duties and the subsequent employee layoffs were anticipated and widely discussed in 2008.⁸ Since car-importing dealerships employed a variety of professionals—managers, interpreters, travel agents,⁹ mechanics, salesmen, advertising and IT specialists—firms closure was expected to increase the unemployment rate in many industries.¹⁰

In our analysis, we focus on the firms outside of the car-importing industry in the regions with the highest concentration of used-car-importing firms. We exclude used-car-importing dealerships because those firms may intensify their operations before the policy change. Other industries should not be directly affected by the policy change, but will also experience an increased labor supply. Managers of small firms will be affected by the increased competition for the managerial positions and by increased competition for other positions, since managers of small businesses and entrepreneurial ventures do not always continue their career as managers. We expect that the anticipation of the future increase of local unemployment should increase managers' effort incentives in 2008. If previously hired managers did not exert their maximum level of effort, they would be likely to do so in 2008. Owner-managers, however, should not be affected because we expect that they face a much lower layoff risk or no risk at all.¹¹

We have a treated group of firms with hired managers in the borderline regions and two potential control groups: firms with owner-managers in those regions and firms with hired managers in other regions. To take advantage of this and control for the region-specific and hired-manager-specific changes, we use a difference-in-difference-in-differences model in Equation 7.

$$OROA_{it} = \beta_0 + \beta_1 HM_i \times Affected_r \times Year2008 + \beta_2 Affected_r \times Year2008 + \quad (7)$$

⁸ We specifically checked relevant local Russian media and online discussion groups for the evidence that the new customs were anticipated and their consequences for the local economy were understood and broadly discussed.

⁹ Some firms organized individual and group trips to Japan, which included used-car purchases and some sightseeing.

¹⁰ However, in 2008, regions most affected by the policy change and other regions had similar unemployment rate dynamics.

¹¹ Our results remain the same if we exclude firms with multiple owners.

$$\beta_3 HM_i \times Year2008 + \sum_{n=4}^k \beta_n Controls_{nit} + Y_t + \varphi_i + \varepsilon_{it}$$

where $Affected_i$ is a dummy variable that equals 1 if a firm is located in the region affected by the import duties change; $Year2008$ is a dummy for year 2008 (the year before the import duties change); φ_i is a firm fixed effect, which also captures the main effects of the hired manager and region, as well as their interaction. The **affected regions** are seven regions with the highest car imports per capita in 2008 (top 10% of the distribution).¹² The comparison group consists of firms from the remaining Russian regions.¹³ We exclude the car-sale industry, which is directly affected by the duties change. The coefficient for the three-way interaction term, $HM_i \times Affected_i \times Year2008$, is expected to be positive. Robust standard errors are clustered on firm.

3.3 Results

Monitoring

Column 1 of Table 3 compares firms with hired managers and owner-managers and demonstrates that, on average, firms with hired managers have 1.7 percentage points lower OROA than firms with owner-managers. Columns 2–4 present the results of the basic models where we interact hired manager dummy variable with the monitoring variables. The coefficients for the interactions of the hired manager dummy variable with the distance, debt, and service industry are in the predicted directions, but not statistically significant. In column 5, we examine the effect of the accounting change on the performance of firms with hired managers. We

¹² Affected regions include Kaliningrad, Primorsk, Sakhalin, Belgorod, Rostov, Kaluga, Lipetsk, Moscow, and Leningrad regions. The results do not change if we limit the affected regions to the two most affected areas, according to the Russian press, Primorsk region and Kaliningrad region. Although Moscow city and St. Petersburg had high car imports in 2008, they are excluded from the affected group because they primarily imported new cars. Moreover, in Moscow and St. Petersburg, unlike in some smaller cities, firms in the used-car importing industry constituted only a small part of local business community and their closure did not have any major effect on the city unemployment rate.

¹³ The control groups are similar to the treated group on the observed characteristics and have similar pre-treatment time trends.

expected that the accounting change would increase information asymmetry and monitoring difficulty and thereby decrease the performance of firms with hired managers. However, we find no significant effect of the accounting change on the performance of firms with hired managers.

Insert Table 3 about here

In Table 4, we instrument for the manager choice with the regional work permit quota. In column 1, we demonstrate that as the regional quota increases the probability of hiring a manager indeed decreases. In column 2, we provide a reduced-form model, where we regress firm performance directly on the regional quota. As expected, the effect of the regional quota size is positive because under a larger quota, fewer potential owner-managers are replaced with hired managers.¹⁴

Insert Table 4 about here

In columns 3–5, we examine whether the positive effect of a regional quota increases with the monitoring difficulty. This will show us if for distant firms, firms with smaller debt, and services firms, it is more important to have an owner-manager, who would eliminate monitoring problems. We expect positive coefficients for the interactions with distance and service industry and a negative coefficient for the interaction with debt. In our results, we find no variations with the service industry or debt. Only an interaction with distance seems to have a significant positive effect on firm performance, and the magnitude of the coefficient is relatively small. Overall, our analyses above demonstrate little support for Hypothesis 1. There is little evidence that the

¹⁴ Firms that were supposed to be managed by an owner but received a hired manager because an owner could not get a work permit are expected to have lower performance. As a result, average performance of all firms under a quota system will be lower than without a quota. Under a higher quota, fewer firms receive hired managers through

performance of firms with hired managers would significantly decrease under the conditions of difficult and costly monitoring.

Incentives

In this section, we examine whether the performance of firms with managers varies with the strength of a hired manager's effort incentives. Table 5 demonstrates that owner-managed firms with multiple owners, where managers presumably have lower work-effort incentives, have lower OROA than owner-managed firms with a single owner. These results suggest that managers' incentives may indeed affect the performance of young entrepreneurial and family ventures. Even owner-managers may have a lower effect on firm performance when they share profits with other shareholders and presumably have lower work-effort incentives and higher incentives to shirk.

Insert Table 5 about here

Table 6 compares firm performance before and after the change of unemployment expectations, when hired managers' incentives have presumably increased. We find that the performance of firms with hired managers increases in the regions affected by the policy change in the year immediately preceding the change, when hired managers expect high future unemployment rates and therefore presumably have higher effort incentives. Model 1 demonstrates that the performance of firms with hired managers in the affected regions is higher

such quasi-exogenous assignment. Therefore, an average performance of firms that entered when a region had a high quota should be higher than an average performance of firms that entered when a region had a low quota.

in 2008—the year preceding the duties change.¹⁵ Model 2 shows that firms with hired managers in the affected regions experience an 8-percentage-point increase in OROA in 2008 compared to firms with hired managers in unaffected regions. Firms with owner-managers, however, do not change their performance (see Model 3). Model 4 demonstrates that in the affected regions, firms with hired managers increase their performance in 2008 relative to firms with owner-managers. Thus when we compared firms with hired managers and owner-managers in the affected regions, we found that before 2008 firms with hired managers had an OROA 6.6 percentage points lower than firms with owner-managers (Model 5). However, in 2008, firms with hired managers already had the same OROA as firms with owner-managers (Model 6).

Insert Table 6 about here

It is likely that the effect of the policy change on unemployment may not be uniform across all industries and may be stronger in industries using similar skills to the car-importing industry. To determine where the employees of the car-importing firms were most likely to seek employment after the policy change, we interviewed former employees of 20 car-importing firms that closed or fired personnel in 2009. The interviews showed that former employees primarily went to car repair shops, sales of motorcycles and vehicles parts, taxi, manufacturing and renting of cars and machinery, freight delivery, warehousing, and travel agencies. As expected, when we ran our analysis on the firms from those, more closely related, industries, the coefficient for the three-way interaction term increased (see column 7).

¹⁵ To show that our results are not driven by a non-linear trend or some other change in the years preceding the policy change, we used a fake pre-change year 2007, excluding year 2008 from the estimation. We estimated the same model as in Equation 7, but for the year 2007. The coefficient for the three-way interaction in the “fake” model is small, 0.018, and non-significant.

Agency studies argue that in corporations, incentives and monitoring can substitute for each other (Zajac and Westphal, 1994). They expect that the effect of incentives could be stronger in firms with more difficult and costly monitoring (Zajac and Westphal, 1994). To find whether the effect of improved effort incentives is larger in the firms with presumably more difficult monitoring, we examine whether the effect of the duties change varies with the monitoring costs. In columns 8 and 9, we use firms with hired managers and examine whether more distant firms and firms with smaller debt experienced a larger increase in OROA. However, we find no variation in the effect of the policy change on firms with hired managers by distance or debt.

In summary, our findings indicate that the performance of firms with hired managers varies with the intensity of the managers' work-effort incentives, but there is no consistent evidence that firm performance varies with the difficulty and costs of firm monitoring. Therefore, we conclude that overall the principal-agent problem must be present in the young firms founded by entrepreneurs. However, unlike in corporations, where both monitoring and incentives play an important role, in entrepreneurial start-ups, firm performance seems to be sensitive to the managers' effort incentives, but to have little sensitivity to the monitoring difficulty.

4. DISCUSSION AND CONCLUSION

Strategy literature has long been interested in explaining how top managers may affect firm performance. The principal-agent conflict proposed by the agency theory is one of the core explanations underlying the managers' effect. Prior studies have extensively studied this conflict in established corporations but have largely overlooked the potential of the principal-agent conflict in small, young firms founded by entrepreneurs and their families. The prior literature has presumably believed that entrepreneurial start-ups would always be managed by the owners (e.g., Berglann et al., 2011; Fama and Jensen, 1983; Hamilton, 2000; Nanda and Sorensen, 2010).

Nevertheless, more recent studies have emphasized that entrepreneurial start-ups operated by hired managers constitute a significant population of firms (e.g., Chen and Thompson, 2012; Kulchina, 2013b); therefore, it is important to understand the mechanisms by which hired top managers may influence performance of young ventures started by entrepreneurs and their families.

In this paper, we have examined whether the principal-agent conflict is present in young firms started by entrepreneurs. We also attempted to understand the potential sources of the principal-agent conflict. More specifically, we examined whether the performance of firms with hired managers varies with the difficulty and costs of firm monitoring and with the intensity and alignment of the work-effort incentives of hired managers.

We have found that similarly to established corporations, young firms founded by entrepreneurs also experience the principal-agent problem. However, the sources of the agency costs seem to be different from those in corporations. Corporations are believed to suffer from both a lack of monitoring and a lack of incentives on the part of a hired manager. Therefore, the two suggested solutions to the principal-agent problem in corporations are better monitoring and increased managerial incentives (e.g., Zajac and Westphal, 1994). We have found that the sources of the principal-agent problem in entrepreneurial ventures seem to be different: The performance of entrepreneurial ventures with hired managers is highly sensitive to the hired manager's work-effort incentives, but seems to have little sensitivity to the monitoring difficulty and costs. While different from the literature on corporations, our findings go along with some prior theoretical expectations in the agency literature saying that a lack of monitoring is less likely to be a source of the agency problem in entrepreneurial ventures (e.g., Demsetz and Lehn, 1985; Jensen and Meckling, 1976). The findings are also in line with some prior studies that suggested that

monitoring and incentives are not perfect substitutes and that incentives may be more effective in improving individuals' performance than monitoring (e.g., Tosi et al., 1997).

While we find little evidence in the entrepreneurial ventures for the sensitivity of firm performance to the monitoring difficulty and costs, these findings raise a number of questions for future research. Why is the performance of entrepreneurial firms operated by hired managers more sensitive to the variations in managers' incentives than to the complexity of monitoring? There could be a number of potential explanations. Managers may not cheat entrepreneurs as much as it was previously believed. Indeed, some recent studies point out that individuals may avoid shirking and cheating even under little monitoring (e.g., Segal, 2012). Thus, managers of entrepreneurial ventures may fulfill their contracts even under weak monitoring. That is why we may find little sensitivity of firm performance to the monitoring difficulty.

However, if we compare monitoring and incentives, the effect of incentives may go beyond the effect of monitoring. Monitoring has its limitations, since it is only effective where the improvements can be enforced, i.e., up to the conditions of an employment contract, and the boundaries allowed by law or reasonably expected from hired employees. For example, it may be unreasonable to expect that with better monitoring a hired manager will constantly overwork, skip vacations and holidays, or substitute for other personnel, if this is not written in the contract or violates labor laws. Monitoring and punishment are expected to eliminate detectable cheating and improve hired managers' performance up to the contract level. Owner-managers, however, have incentives to work harder than a typical contract would require. As Sanders and Nee (1996) report, entrepreneurs often skip vacations and work longer hours than hired personnel. We expect that increased work incentives would have a similar effect on hired managers: they would help to eliminate undetectable cheating and increase hired manager's work effort beyond a contract level.

Unfortunately, it is hard to observe the amount of effort of hired managers and owner-managers without directly tracking owner-manager's daily activities. Nevertheless, we attempt to get a sense of whether owner-managers may work longer hours than hired managers. We tracked the working hours of a small subsample of restaurants that belong to the foreign entrepreneurs from our sample. Since we had the names and addresses of the restaurants, we tracked their Internet records and determined their opening and closing times from the yellow pages, business registries, and restaurant websites. We expect that a manager of a restaurant, particularly a smaller one, would be present on site for the most of the operation time, so the manager's working time would be correlated with the restaurant operation time. We have found that, on average, the restaurants with owner-managers work an hour per week longer than the restaurants with hired managers. This observation and prior evidence in the entrepreneurship literature (e.g., Sanders and Nee, 1996) suggest that owner-managers may overwork relative to hired managers.

Alternatively, the lack of findings for the monitoring variables may be due to some other explanations. Perhaps the contracts between entrepreneurs and hired managers, which we do not observe in this study, are built so as to strongly align managers' pay with firm performance. Perhaps, unlike large corporations, entrepreneurial ventures are noncomplex and their operations could be controlled under a very basic level of monitoring. Managers' actions in such firms may be more visible and easily associated with firm performance. Finally, entrepreneurial firms may respond to other monitoring variables than the ones that are traditionally used for corporations. All these potential explanations open a broad avenue for future research that would further examine the nuances of the principal-agent relationships in young firms founded by entrepreneurs and their families.

In addition to suggesting an interesting avenue for future research, our paper makes several other contributions to the strategy and entrepreneurship literature. First, it speaks to the

agency theory literature. This literature has largely focused on the principal-agent problem in corporations and assumed that the principal-agent problem is nonexistent or minimal in entrepreneurial ventures. Our results demonstrate that the principal-agent problem also affects young firms founded by entrepreneurs and their families. However, while the performance of corporations is sensitive to both monitoring difficulty and manager's incentive intensity, we find that the performance of entrepreneurial start-ups is much more sensitive to the manager's incentives and find little evidence for the effect of the monitoring difficulty and costs. Moreover, our findings for firms with owner-managers suggest that these firms may also experience agency costs due to insufficient incentives of owner-managers when a firm has multiple owners and an owner-manager has to share firm profit with other shareholders.

Also, in the past two decades, agency literature has paid particular attention to the relative importance of monitoring and incentives (e.g., Rutherford, Buchholtz, and Brown, 2007; Tosi et al., 1997; Zajac and Westphal, 1994). While some studies have demonstrated that incentives may be more effective in improving employee performance than monitoring (e.g., Tosi et al., 1997), this research has not yet come to a definitive conclusion regarding the comparative relationships between monitoring and incentives. We find that the performance of young entrepreneurial start-ups seem to be more sensitive to the managers' incentives intensity than monitoring. Our results also emphasize the need of further investigation of the sources of such difference. We should point out, however, that our results do not recommend that entrepreneurs should stop monitoring their managers, but suggest that in entrepreneurial and family start-ups, which may be less complex than corporations, some basic level of monitoring may be sufficient. Perhaps entrepreneurs would be better off finding ways to increase their managers' work-effort incentives and align these incentives with firm performance rather than further investing into monitoring systems.

Our findings also suggest that managers' incentives highly depend on the local labor market conditions. Under high labor market competition, managers have higher work-effort incentives. These results contribute empirical evidence to the agency and incentive theories. Incentives theory has long focused on incentive contracts, such as pay for performance, as a main way of improving managers' incentives. Our findings suggest that there may be less need of incentive contracts when the market competition is able to motivate a manager. Thus, hiring a manager may be more appropriate in regions with high unemployment rates. In such regions, in addition to more available talent and lower managerial wages, hired manager would have higher work-effort incentives. These findings go along with the statement by Gibbons (2005) that the new direction in the incentive branch of the agency theory teaches us that the incentives contract is not the only source of managers' incentives, but labor market competition can also discipline a manager. Our empirical findings, thus, complement theoretical models presented by Gibbons (2005).

Finally, our results also contribute to the franchising literature (e.g., Brickley and Dark, 1987; Lafontaine and Slade, 2007). Franchising has long been believed to be a solution to the agency problems in multiunit firms and successful franchisees were often given an opportunity to open additional franchised units. In serial franchising, however, the ventures are typically operated by hired managers even though they are owned by individual entrepreneurs. Our results suggest that franchising may be more effective in reducing agency problem when an owner of a franchised unit is managing it personally.

REFERENCES

- Aldrich, H., and Waldinger, R. 1990. Ethnicity and entrepreneurship. *Annual Review of Sociology*, 16: 111–135.
- Anderson, R. C., and Reeb, D. M. 2003. Founding-family ownership and firm performance: evidence from the S&P 500. *The Journal of Finance*, 58 (3): 1301–1328.
- Ang, J. S., Cole, R. A., and Lin, J. W. 2000. Agency costs and ownership structure. *The Journal of Finance*, 55 (1): 81–106.
- Belenzon, S., Berkovitz, T., and Rios, L. 2013. Capital markets and firm organization: how financial development shapes European corporate groups. *Management Science*, forthcoming.
- Berglann, H., Moen, E. R., Roed, K., and Skogstrom, J. F. 2011. Entrepreneurship: origins and returns. *Labour Economics*, 18(2): 180–193.
- Bertrand, M. 2009. CEOs. *Annual Review of Economics*, 1(1): 121–150.
- Bertrand, M., and Schoar, A. 2003. Managing with style: the effect of managers on firm policies. *The Quarterly Journal of Economics*, 118: 1169–1208.
- Bloom, N., Kretschmer, T., and Van Reenen, J. 2011. Are family-friendly workplace practices a valuable firm resource? *Strategic Management Journal*, 32: 343–367.
- Bloom, N., and Van Reenen, J. 2007. Measuring and explaining management practices across firms and countries. *Quarterly Journal of Economics*, 122 (4): 1351–1408.
- Brickley, J. A., and Dark, F. H. 1987. The choice of organizational form: the case of franchising. *Journal of Financial Economics*, 18: 401–420.
- Chang, Y. Y., Dasgupta, S., and Hilary, G. 2010. CEO ability, pay, and firm performance. *Management Science*, 56(10): 1526–5501.
- Chen, J., and Thompson, P. 2012. New Firm Performance and the Replacement of Founder-CEOs. Working paper.
- Demsetz, H., and Lehn, K. 1985. The structure of corporate ownership: causes and consequences. *Journal of Political Economy*, 93: 1155–1177.
- Eisenhardt, K. M. 1989. Agency theory: an assessment and review. *The Academy of Management Review*, 14 (1): 57–74.
- Fahlenbrach, R. 2009. Founder-CEOs, investment decisions, and stock market performance. *Journal of Financial and Quantitative Analysis*, 44: 439–466.
- Fama, E., and Jensen, M. 1983. Separation of ownership and control. *Journal of Law and Economics*, 26: 301–325.
- Fiscal Policy Institute. 2012. *Immigrant Small Business Owners*. Report. June 2012.
- Gibbons, R. 2005. Incentives between firms (and within). *Management Science*, 51 (1): 2–17.
- Hamilton, B. H. 2000. Does entrepreneurship pay? An empirical analysis of the returns to self-employment. *Journal of Political Economy*, 108 (3): 604–631.

- Jensen, M., and Meckling, W. 1976. Theory of the firm: managerial behaviour, agency costs, and ownership structure. *Journal of Financial Economics*, 3: 305–360.
- Jensen, M. C., and Murphy, K. J. 1990. Performance pay and top-management incentives. *The Journal of Political Economy*, 98 (2): 225–264.
- Kosova, R. 2010. Do foreign firms crowd out domestic firms? Evidence from the Czech Republic. *The Review of Economics and Statistics*, 92(4): 861–881.
- Kulchina, E. 2013a. Media coverage and location choice. *Strategic Management Journal*, forthcoming.
- Kulchina, E. 2013b. Do it Yourself or Hire a Manager? Foreign Entrepreneurs and Firm Performance. Working paper.
- Lafontaine, F., and Slade, M. E. 1997. Retail contracting: theory and practice. *The Journal of Industrial Economics*, XLV (1): 1–25.
- Lafontaine, F., and Slade, M. E. 2007. Vertical integration and firm boundaries: the evidence. *Journal of Economic Literature*, 45 (3): 629–685.
- Lazear, E. P. 2000. Performance pay and productivity. *American Economic Review*, 90 (5): 1346–1361.
- Mackey, A. 2008. The effect of CEOs on firm performance. *Strategic Management Journal*, 29: 1357–1367.
- Miller, D., Minichilli, A., and Corbetta, G. 2013. Is family leadership always beneficial? *Strategic Management Journal*, 34: 553–571.
- Minkler, A. P. 1990. An empirical analysis of a firm's decision to franchise. *Economic Letters*, 34: 77–82.
- Nanda, R., and Sorensen, J. B. 2010. Workplace peers and entrepreneurship. *Management Science*, 56(7): 1116–1126.
- Nelson, T. 2003. The persistence of founder influence: management, ownership, and performance effects at initial public offering. *Strategic Management Journal*, 24: 707–724.
- ORBIS database, Bureau van Dijk, 2013. <http://www.bvdinfo.com/en-gb/products/company-information/international/orbis>
- Rutherford, M. A., Buchholtz, A. K., and Brown, J. A. 2007. Examining the relationships between monitoring and incentives in corporate governance. *Journal of Management Studies*, 44 (3): 414–430.
- Sanders, J. M., and Nee, V. 1996. Immigrant self-employment: the family as social capital and the value of human capital. *American Sociological Review*, 61 (2): 231–249.
- Schulze W. S., Lubatkin, M. H., Dino, R. N., and Buchholtz, A. K. 2001. Agency relationships in family firms: theory and evidence. *Organization Science*, 12 (2): 99–116.
- Segal, C. 2012. Working when no one is watching: motivation, test scores, and economic success. *Management Science*, 58 (8): 1438–1457.
- Seshadri, S. 2002. Outlet ownership in franchising systems: an agency based approach. *Managerial and Decision Economics*, 23 (6): 355–369.

- Sliwka, D. 2007. Managerial turnover and strategic change. *Management Science*, 53(11): 1675–1687.
- Sorenson, O., and Stuart, T. E. 2001. Syndication networks and the spatial distribution of venture capital investments. *The American Journal of Sociology*, 106 (6): 1546–1588.
- Sotnikova, L. V. 2001. Sostavlenie bukhalterskogo otcheta za 2001 god (How to write an accounting report for 2001) *Bukhalterskiy Uchet (Accounting)*, 24: 1–10. (in Russian)
- Sparks, R. 1986. A model of involuntary unemployment and wage rigidity: worker incentives and the threat of dismissal. *Journal of Labor Economics*, 4 (4): 560–581.
- Tosi, H. L., Katz, J. P., and Gomez-Mejia, L. R. 1997. Disaggregating the agency contract: the effects of monitoring, incentive alignment, and term in office on agent decision-making. *Academy of Management Journal*, 40 (3): 584–602.
- Villalonga, B., and Amit, R. 2006. How do family ownership, management and control affect firm value? *Journal of Financial Economics*, 80: 385–417.
- Wulf, J., and Singh, H. 2011. How do acquirers retain successful target CEOs? The role of governance. *Management Science*, 57(12): 2101–2114.
- Zajac, E. J., and Westphal, J. D. 1994. The costs and benefits of managerial incentives and monitoring in large U.S. corporations: when is more not better? *Strategic Management Journal*, 15: 121–142.

Table 1. Main variables

Variable	Description	Mean	Std. dev.	Min.	Max	N
Hired manager (HM)	Equals 1 if the firm has a hired manager and zero otherwise	0.349	0.477	0	1	16,205
OROA	Ratio of operating profit (earnings before interest and taxes) to the book value of assets	0.020	0.335	-2.857	1.360	16,205
Assets	Book value of assets	6,906,491	19,900,000	5,008	213,000,000	16,205
Ln(assets)	Natural log of the book value of assets	12.857	2.886	8.519	19.177	16,205
Revenue	Operating revenue	14,700,000	61,400,000	0	2,430,000,000	16,205
Ln(revenue)	Natural log of 1+operating revenue	9.461	7.442	0	21.610	16,205
Debt	Debt	1,615,122	14,800,000	0	496,000,000	16,205
Ln(debt)	Natural log of 1+debt	1.934	4.865	0	20.023	16,205
Age	Firm age in years; equals zero in the year of entry	2.776	2.815	0	16	16,205
Ln(age)	Natural log of 1+firm age in years	1.074	0.722	0	2.833	16,205
Shareholders	The number of shareholders	1.068	0.340	1	8	16,205
Employees	The number of employees	22.938	47.722	1	495	7,378 ^a
Ln(employees)	Natural log of the number of employees	2.164	1.320	0	6.205	7,378
Regional quota	The number of allowed work visas in a Russian region.	34,063	36,349	4	100,000	1,047
Rquota	Regional quota divided by 10,000	3.406	3.634	0.0004	10	1,047
Distance	The distance (in kilometers) from the main owner's country of origin to the firm location city in Russia	2,962	2,026	167.141	12021.53	14,673
Ln(distance)	Natural log of the distance (in kilometers) from the main owner's country of origin to the firm location city in Russia	7.682	0.888	5.119	9.394	14,673

a) Employment data is available from 2003.

b) All firm monetary variables are in nominal Russian rubles.

Table 2. Main correlations

	Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
1.	Hired manager	1.000									
2.	OROA	-0.032	1.000								
3.	Ln(assets)	0.131	0.095	1.000							
4.	Ln(debt)	0.078	-0.055	0.215	1.000						
5.	Ln(age)	-0.027	0.023	0.181	0.091	1.000					
6.	Ln(revenue)	0.081	0.162	0.626	0.043	0.066	1.000				
7.	Shareholders	0.024	-0.060	0.035	0.069	-0.010	0.006	1.000			
8.	Ln(employees)	0.090	0.168	0.618	0.050	0.272	0.618	0.027	1.000		
9.	Ln(distance)	0.046	-0.054	-0.037	0.061	0.080	-0.097	-0.019	-0.064	1.000	
10.	Services	0.054	-0.002	-0.088	0.109	-0.000	-0.132	0.072	-0.102	-0.001	1.000
11.	Rquota	-0.048	-0.060	-0.018	0.049	0.095	-0.058	-0.093	-0.002	0.391	0.010

Table 3. Monitoring difficulty^a

	(1)	(2)	(3)	(4)	(5)
Variables	Baseline model	Services versus manufacturing	Distance	Debt	Accounting change
Sample	All firms	Services and manufacturing firms	Cities with population over 100,000	All firms	Firms affected by accounting change
Estimation method	OLS	OLS	OLS	OLS	OLS
Dependent variable	OROA	OROA	OROA	OROA	OROA
Hired manager	-0.017** (0.008)	-0.008 (0.021)	0.085 (0.067)	-0.019** (0.009)	
Hired manager*services		-0.029 (0.028)			
Hired manager*ln(distance)			-0.014 (0.009)		
Hired manager*ln(debt)				0.001 (0.001)	
Hired manager*year2001					-0.016 (0.031)
Ln(distance)			-0.016 (0.015)		
Ln(debt)	-0.004*** (0.001)	-0.005*** (0.001)		-0.005*** (0.001)	-0.002 (0.002)
Services		0.033* (0.020)			
Ln(assets)	-0.001 (0.002)	-0.002 (0.004)	0.001*** (0.003)	-0.001 (0.002)	0.012* (0.007)
Ln(revenue)	0.008*** (0.001)	0.008*** (0.002)	0.008*** (0.001)	0.008*** (0.001)	0.006*** (0.002)
Shareholders	-0.033** (0.013)	-0.014 (0.018)	-0.053*** (0.016)	-0.033** (0.013)	
Ln(age)	0.010** (0.005)	0.027*** (0.009)	0.012** (0.005)	0.010** (0.005)	0.076*** (0.022)
Constant	-0.238*** (0.088)	0.693*** (0.071)	0.407** (0.167)	-0.238*** (0.087)	-0.334*** (0.104)
Year dummies	yes	yes	yes	yes	yes
Industry dummies	yes	no	yes	yes	no
Country dummies	yes	yes	yes	yes	no
City dummies	no	no	yes	no	no
Firm f.e.	no	no	no	no	yes
R ²	0.058	0.063	0.067	0.058	0.027
N	16,205	6,230	14,673	16,205	4,379

a) Standard errors clustered on firm are in parentheses. *, **, and *** denote significance at 10%, 5%, and 1% respectively.

Notes: Models 1 and 4 include all firm-year observations. Model 2 includes firms from the service and manufacturing industries. Model 3 includes firms from cities with population over 100,000 people. Model 4 includes firms founded before 2001.

Table 4. Regional quota as an instrument for a hired manager assignment

	(1)	(2)	(3)	(4)	(5)
Variables	Predicting manager choice	Reduced form	Distance	Debt	Services
Estimation method	OLS	OLS	OLS	OLS	OLS
Dependent variable	Hired manager	OROA	OROA	OROA	OROA
Rquota ^b	-0.062*** (0.016)	0.021** (0.009)	-0.082 (0.051)	0.021** (0.009)	0.073*** (0.337)
Rquota*Ln(distance)			0.013** (0.006)		
Rquota*Ln(long debt)				-0.0005 (0.0005)	
Rquota*Services					-0.027 (0.020)
Ln(distance)			-0.084 (0.057)		
Ln(assets)	0.024** (0.010)	0.004 (0.008)	0.007 (0.009)	0.003 (0.008)	0.009 (0.022)
Ln(revenue)	0.002 (0.004)	0.005 (0.003)	0.004 (0.003)	0.005 (0.003)	0.004 (0.008)
Ln(debt)	0.006 (0.004)	-0.004 (0.003)	-0.002 (0.003)	-0.002 (0.003)	-0.004 (0.007)
Shareholders	0.122** (0.050)	-0.124*** (0.039)	-0.134*** (0.041)	-0.124*** (0.039)	-0.036 (0.086)
Ln(age)	-0.289*** (0.068)	0.050 (0.050)	0.046 (0.059)	0.049 (0.049)	0.400*** (0.146)
Constant	1.109*** (0.203)	0.071 (0.129)	0.844 (0.650)	-0.046 (0.103)	-0.183 (0.337)
Year dummies	yes	yes	yes	yes	yes
Industry dummies	yes	yes	yes	yes	yes
Country dummies	no	no	yes	no	no
Region dummies	yes	yes	yes	yes	yes
R ²	0.325	0.161	0.238	0.162	0.302
N	1,047	1,047	932	1,047	254

a) Standard errors clustered on firm are in parentheses. *, **, and *** denote significance at 10%, 5%, and 1% respectively.

b) Rquota is a regional quota divided by 10,000.

Notes: All models include firms from non-CIS countries founded in 2005–2007. Model 3 is also limited to firms from cities with population over 100,000 people. Model 5 is limited to firms from the service and manufacturing industries.

Table 5. Incentives in firms with multiple owners

	(1)	(2)
Variables	All firms	Owner-managers
Estimation method	OLS	OLS
Dependent variable	OROA	OROA
Owner-manager	0.021*** (0.008)	
Owner-manager*multiple owners	-0.072** (0.033)	
Multiple owners	-0.007 (0.024)	-0.077*** (0.025)
Ln(debt)	-0.004*** (0.001)	
Ln(assets)	-0.001 (0.002)	-0.001 (0.003)
Ln(revenue)	0.008*** (0.001)	0.008*** (0.001)
Ln(age)	0.010** (0.005)	0.006 (0.006)
Constant	-0.296*** (0.088)	-0.452*** (0.077)
Year dummies	yes	yes
Industry dummies	yes	yes
Country dummies	yes	yes
R ²	0.058	0.064
N	16,205	10,548

a) Standard errors clustered on firm are in parentheses. *, **, and *** denote significance at 10%, 5%, and 1% respectively.

Notes: Model 1 includes all firms. Model 2 includes firms with owner-managers only.

Table 6. Instrumenting for hired managers' incentives with the change of import duties^a

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variable	All firms	Hired managers	Owner-managers	Affected regions	Affected regions, before 2008	Affected regions, in 2008	"Related" industries	Distance, hired managers	Debt, hired managers
Hired manager* affected*year2008	0.131** (0.056)						0.539** (0.180)		
Affected*year2008	-0.049 (0.043)	0.082** (0.036)	-0.049 (0.043)				-0.422*** (0.064)	0.150 (0.340)	0.092** (0.044)
Affected*year2008* Ln(distance)								-0.009 (0.049)	
Affected*year2008* Ln(long debt)									-0.005 (0.005)
Hired manager*year2008	-0.001 (0.020)			0.130** (0.051)			0.066 (0.068)		
Year2008*Ln(distance)								0.018 (0.017)	
Year2008*Ln(debt)									0.005 (0.003)
Hired manager					-0.066** (0.031)	0.016 (0.061)			
Ln(assets)	0.015*** (0.004)	0.015** (0.007)	0.015*** (0.006)	0.027* (0.014)	0.008 (0.008)	-0.003 (0.014)	0.066** (0.027)	0.016** (0.008)	0.016** (0.007)
Ln(revenue)	0.004*** (0.001)	0.005** (0.002)	0.004** (0.002)	0.005 (0.004)	0.007** (0.003)	0.018** (0.007)	0.006 (0.007)	0.003 (0.002)	0.005** (0.002)
Ln(debt)	-0.003** (0.001)	-0.002 (0.001)	-0.003** (0.002)	0.001 (0.003)	-0.003 (0.002)	-0.003 (0.006)	-0.005** (0.002)	-0.003* (0.002)	-0.003** (0.002)
Ln(age)	0.023* (0.011)	0.019 (0.024)	0.025* (0.014)	0.032 (0.054)	-0.020 (0.021)	0.066 (0.058)	-0.017 (0.061)	0.030 (0.027)	0.024 (0.024)
Shareholders					0.030 (0.050)	-0.105*** (0.032)			
constant	-0.147** (0.058)	-0.043 (0.134)	-0.134 (0.088)	-0.534** (0.209)	0.202 (0.184)	-1.689*** (0.237)	-1.032*** (0.350)	-0.006 (0.140)	-0.027 (0.129)
Year dummies	yes	yes	yes	yes	yes	no	yes	yes	yes
Firm f.e.	yes	yes	yes	yes	no	no	yes	yes	yes
Dummy variables					industry, country				
R ² (within)	0.016	0.021	0.014	0.044	0.123	0.503	0.075	0.018	0.023
N	15,064	5,208	9,856	1,074	918	156	1,010	4,478	5,208

a) Robust standard errors clustered on firm are in parentheses. *, **, and *** denote significance at 10%, 5%, and 1% respectively.

Notes: Model 1 includes all firms. Models 2 and 9 include firms with hired managers only. Model 3 includes only firms with owner-managers. Model 4 includes firms in the affected regions. Models 5 and 6 compare firms with hired managers and owner-managers in the affected regions before 2008 and in 2008 respectively. Model 7 includes firms from the closely related industries. Model 8 includes firms with hired managers with location distance.

APPENDICES

Appendix 1

Table A1. Service and manufacturing industries

OKVED code	Industry description	N of obs.
Manufacturing industries		1,668
15	Manufacture of food products and beverages	
16	Manufacture of tobacco products	
17	Manufacture of textiles	
18	Manufacture of wearing apparel; dressing and dyeing of fur	
19	Manufacture of leather; manufacture of leather articles and footwear	
20	Processing of wood and of products of wood and cork, except furniture	
21	Manufacture of pulp, paper, paperboard, and paper products	
22	Publishing, printing, and reproduction of recorded media	
23	Manufacture of coke, refined petroleum products, and nuclear fuel	
24	Manufacture of chemicals and chemical products	
25	Manufacture of rubber and plastic products	
26	Manufacture of other non-metallic mineral products	
27	Metallurgical manufacture	
28	Manufacture of fabricated metal products	
29	Manufacture of machinery and equipment	
30	Manufacture of office machinery and computers	
31	Manufacture of electrical machinery and equipment	
32	Manufacture of radio, television, and communication equipment and apparatus	
33	Manufacture of medical, precision and optical instruments, watches, and clocks	
34	Manufacture of motor vehicles, trailers, and semi-trailers	
35	Manufacture of ships, aircraft and spacecraft, and other motor vehicles	
36	Manufacture of furniture; manufacturing n.e.c.	
37	Recycling	
Service industries		4,562
55	Hotels and restaurants	
60	Land transport; transport via pipelines	
61	Water transport	
62	Air transport	
63	Supporting and auxiliary transport activities; activities of travel agencies	
64	Post and telecommunications	
65	Financial intermediation, except insurance and pension funding	
66	Insurance and pension funding, except compulsory social security	
67	Activities auxiliary to financial intermediation and insurance	
70	Real estate activities	
71	Renting of machinery and equipment without operator and of personal and household goods	
74	Other business activities	
80	Education	
85	Health and social work	
92	Recreational, cultural and sporting activities	
93	Private households with employed persons	
95	Housekeeping services	